1. (Currently amended) A magnetic circuit element including a circuit board, ~~at least~~ a plurality in excess of two flux-conducting magnetic core arms penetrating the board, ~~at least~~ a plurality in excess of two flux-conducting magnetic core elements extending between the magnet core arms in flux-conducting relation therewith, ~~one~~ on ~~each side~~ both sides of the circuit board, at least two series-connected primary windings on the board in at least partially encircling relation to at least one of the arms and at least two parallel-connected secondary windings on the board in at least partially encircling relation to at least one of the arms wherein the core arms and core elements are serially linked to form a single, unbranched, closed flux path, whereby all of the primary and secondary windings are linked by the same flux.

2. (Previously presented) The magnetic circuit element according to claim 1, wherein the circuit board is a multilayer circuit board and at least one of the windings is a buried winding located between layers of the multilayer circuit board.

3. (Previously presented) The magnetic circuit element according to claim 2, wherein each of the windings is a buried winding located between layers of the multilayer circuit board.

4. (Currently amended) The magnetic circuit element according to claim 2, further comprising circuit ~~component~~ components, including one or more power components, occupying at least one outer surface of the circuit board above or below the at least one buried winding.

5. (Previously presented) The magnetic circuit element according to claim 1, wherein each of the primary windings has substantially the same number of turns as each other secondary winding.

6. (Previously presented) The magnetic circuit element according to claim 5, wherein each of the secondary windings has substantially the same number of turns as each other secondary winding.

7. (Previously presented) The magnetic circuit element according to claim 1, wherein the number of primary windings is the same as the number of secondary windings, each primary winding being wound in closely coupled relation to a secondary winding.

8. (Previously presented) The magnetic circuit element according to claim 6, wherein the number of primary windings is the same as the number of secondary windings, each primary winding being wound in closely coupled relation to a secondary winding.

9. (Previously presented) The magnetic circuit element according to claim 2, wherein all of the core arms and core elements are selected from the group consisting of C and I elements.

10. (Currently amended) A magnetic circuit element including a circuit board, plurality of flux-conducting magnetic core arms penetrating the board, a plurality of flux-conducting magnetic core elements extending between the magnet core arms on both sides of the circuit board, at least two series-connected primary windings on the board in at least partially encircling relation to at least one of the arms and at least two parallel-connected secondary windings on the board in at least partially encircling relation to at least one of the arms wherein the core arms and core elements are serially linked to form a single, unbranched, closed flux path, whereby all of the primary and secondary windings are linked by the same flux, the ~~The~~ magnetic circuit element ~~according to claim 1,~~ having an even number of core arms in excess of two.

11. (Previously presented) The magnetic circuit element according to claim 10, having in excess of two magnetic core arms penetrating the board, each core arm being wound with at least one of the primary and secondary windings.

12. (Previously presented) The magnetic circuit element according to claim 11, wherein each core arm is wound with at least one of the primary windings and at least one of the secondary windings.

13. (Previously presented) A multilayer printed circuit board of the kind having first and second surfaces on first and second sides of the board and including a transformer with windings defined between layers of the board and a transformer core penetrating the layers of the board and about which the windings are wound; the improvement comprising; a plurality of at least four magnetic core segments extending through the board from the first side to the second side at spaced apart locations;

a) said windings comprising a plurality of at least four windings, each at least partially encircling a separate one of the core segments where the core segments extend through the board;

b) a plurality of substantially planar first magnetic core elements at the first side of the board, each of the first core elements extending between a pair of the magnetic core segments in flux-conducting relation thereto such that each core segment at the first side of the board is joined in flux-conducting relation to another of the core segments by one of the substantial planar core elements at the first side of the board; and

c) a plurality of substantially planar second magnetic core elements at the second side of the board, each of the second magnetic core elements at the second side of the board extending between a pair of the magnetic core segments in flux-conducting relation

thereto, each pair of core segments between which a second magnetic core element extends at the second side of the board being in a separate pair of the core segments joined in flux-conducting relation by first magnetic core elements at the first side of the board;

the magnetic core elements and core segments forming an unbranched, closed magnetic flux path extending across the first and second faces and through the layers of the board.

14. (Currently amended) A method of power conversion for providing high amperage, low voltage power including:

(a) providing a printed circuit board,

(b) forming in excess of two holes through the printed circuit board,

(c) locating magnetic core arms in each of the holes formed in the printed circuit board,

(d) locating magnetic core elements in flux-conducting relation between the core arms on opposite faces of the printed circuit board to form a transformer core that has a single, unbranched, closed flux path incorporating each of the core arms and core elements,

(e) winding a plurality of series-connected windings, on the core arms to form a transformer primary,

(f) winding a plurality of parallel-connected windings, on the core arms to form a transformer secondary.

15. (Previously presented) The method according to claim 14, further comprising providing a plurality of output treating circuits at the output of each of the windings forming the secondary, the output heating circuits being connected between these windings and a current additive point of connection of the windings.

16. (Previously presented) The method according to claim 14, wherein the steps of winding the series-connected windings and winding the parallel-connected windings comprises winding at least one of the series-connected windings in closely coupled relation to one of the parallel-connected windings on each of the core arms.

17. (Previously presented) The method according to claim 16, wherein forming holes in the printed circuit board comprises forming in excess of two holes therein, and the step of locating magnetic core arms in the holes comprises locating in excess of two core arms, winding a plurality of series-connected windings comprises winding in excess of two series-connected windings on the core arms, and winding a plurality of parallel-connected windings comprises winding in excess of two parallel-connected windings on the core arms.

18. (Previously presented) The method according to claim 17, wherein each step of winding comprises printing or depositing a winding on a surface of the printed circuit board in at least partially encircling relation to one of the core arms.

19. (Previously presented) The method according to claim 14, wherein each step of winding comprises printing or depositing a winding on a surface of the printed circuit board in at least partially encircling relation to one of the core arms.

20. (Previously presented) The method according to claim 14, wherein the step of providing a printed circuit board comprises providing a multilayer circuit board, and the steps of winding a plurality of series-connected and parallel-connected windings comprise providing at least a plurality of windings as buried windings on one or more layer surfaces intermediate the opposite faces of the printed circuit board.

21. (Currently amended) A multilayer printed circuit comprising:

(a) a multilayer circuit board having first and second faces,

(b) a transformer including:

(i) a magnetic core having:

(A) a plurality of core arms, each of which extends through a hole in the multilayer circuit board from the first face to the second face,

(B) a plurality of magnetic core elements, each extending along the first or second surface between ends of the core arms to complete a magnetic circuit comprises of the core arms and core elements to form a single, branchless, closed flux path,

(C) at least two series-connected windings forming a transformer primary printed on the multilayer circuit board, each in at least partially encircling relation to a core arm,

(D) at least two parallel-connected windings forming a transformer secondary printed on the multilayer circuit board, each in at least partially encircling relation to a core arm, and

(E) each core arm extending through the multilayer circuit board having at least one of the windings of the transformer primary or secondary wound thereon,

(c) transformer secondary output processing circuitry connected to the parallel-connected windings,

(i) each parallel-connected winding having substantially the same output processing circuitry connected thereto for similarly processing each parallel-connected winding output,

(ii) the output processing circuitry being located between the parallel-connected windings and a point of interconnection thereof.

whereby each winding couples the identical flux in the core.

22. (Cancelled)

23. (Currently amended) The multilayer printed circuit according to claim [[22]] 21, wherein the point of interconnection is current additive.

24. (Previously presented) The multilayer printed circuit according to claim 21, wherein at least one of the windings forming the transformer primary and at least one of the windings forming the transformer secondary are buried windings printed on a face of a layer of the multilayer circuit board interior of the first and second faces.

25. (Previously presented) The multilayer printed circuit according to claim 21, wherein each of the connected in series windings forming the transformer primary has substantially the same number of turns as each other of the connected in series windings forming the transformer primary.

26. (Previously presented) The multilayer printed circuit according to claim 21, wherein each of the connected in parallel windings forming the transformer secondary has substantially the same number of turns as each other of the connected in parallel windings forming the transformer secondary.

27. (Previously presented) The multilayer printed circuit according to claim 25, wherein each of the connected in parallel windings forming the transformer secondary has substantially the same number of turns as each other of the connected in parallel windings forming the transformer secondary.

28. (Previously presented) The multilayer printed circuit according to claim 27, wherein on each of the core arms is wound at least one of the connected in series windings forming the transformer primary in closely coupled relation to at least one of the connected in parallel windings forming the transformer secondary.

29. (Previously presented) The multilayer printed circuit according to claim 28, wherein the number of core arms is greater than two.

30. (Previously presented) The multilayer printed circuit according to claim 29, wherein the core elements are plates overlying the first and second surfaces of the circuit board in flux communicating relation to each core arm.

31. (Currently amended) A power magnetic component including:

(a) a multilayer circuit board having first and second exterior faces,

(b) a magnetic core comprising:

(i) a plurality in excess of two magnetic segments extending through the circuit board from one exterior face to the other exterior face,

(ii) ~~at least~~ a plurality in excess of two magnetic elements exterior of the circuit board,

each magnetic element being mounted on or over ~~at~~ one of the faces, and extending generally parallel to the faces of the board in flux conducting relation from one of the segments to another of the segments to form a single, closed, unbranched flux path, and

(c) at least one buried winding carried on a surface of a layer of the multilayer circuit board intermediate the exterior faces and at least partially encircling one of the magnetic segments.

32. (New) The power magnetic component according to claim 31, wherein the magnetic segments extending through the circuit board comprise at least four magnetic segments, and the magnetic elements exterior of the circuit board comprise at least two magnetic segments on opposite sides of the circuit board, all of said magnetic segments and magnetic elements being serially linked in flux conducting relation into said single, closed, unbranched flux path.

33. (New) The power magnetic component according to claim 31, wherein the magnetic segments extending through the circuit board comprise at least six magnetic segments, and the magnetic elements exterior of the circuit board comprise at least four magnetic segments on opposite sides of the circuit board, all of said magnetic segments and magnetic elements being serially linked in flux conducting relation into said single, closed, unbranched flux path.